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10/019,827	05/21/2002	Chenghui Luo	Fraunh01.014	8660

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EXAMINER

DASTOURI, MEHRDAD

ART UNIT PAPER NUMBER

2623

DATE MAILED: 03/11/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/019,827

Applicant(s)

LUO ET AL.

Examiner

Mehrdad Dastouri

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5,9-14,19,20 and 22-28 is/are rejected.
- 7) ☒ Claim(s) 1-4,6-8,15-18 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Specification***

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

### ***Claim Objection***

2. Claim 17 is objected for the following informalities:

Claim 17 is listed twice. Once as a dependent claim that is dependent upon Claim 1. It is listed again as an independent claim. The independent Claim 17 through Claim 27 have been renumbered and examined as Claims 18-28. The dependent Claim 17 examined as the actual Claim 17.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-4, 6-8, 15-18 and 21 are rejected under 35 U.S.C. 102(a) as being anticipated by Collberg et al (A Taxonomy of Obfuscating Transformations).

Regarding Claim 1, Collberg et al disclose a method of adding a watermark to executable instructions (Java Programs) comprising the steps of:

receiving the sequence of executable instructions and a key (Figures 1 and 5;

Page 3, Column 2);

modifying the sequence of executable instruction in a manner determined by the key, the sequence being modified such that the usefulness of the sequence for the sequence's intended purpose is not affected thereby (Figures 1, 5 and 6; Abstract; Page 3, Column 2; Pages 4-6, Sections 3 and 4; Architecture of Kava or Java obfuscation tool. The key indicates the manner of modifications to be made to the executable sequences. Further, the modifications do not prevent the use of the executable instructions.).

Regarding Claim 2, Collberg et al further disclose the method set forth in Claim 1 wherein:

the step of receiving the sequence of executable instructions further includes receiving a watermark value (Figure 5, Object Code); and

the step of modifying the sequence modifies the sequence so that certain of the instructions therein represent a watermark value (Figures 1 and 5, Obfuscated Object Code; Figure 6; Pages 6 and 7, Section 4).

Regarding Claim 3, Collberg et al further disclose the method set forth in Claim 1 wherein the step of modifying the sequence includes the steps of:

using the key to determine locations in the key including modification locations at which the sequence is to be modified (Figure 10; Pages 11-14, Section 6.2);

modifying the sequence at the modification locations such that the locations specified by the key represents the watermark value (Figure 10; Pages 11-14, Section 6.2).

Regarding Claim 4, Collberg further disclose the method set forth in Claim 1 wherein the step of modifying the sequence includes the steps of:

inserting one or more executable instructions at each of the modification locations, the inserted instructions having no effect on any output from the execution of the sequence of instructions (Figure 10; Pages 11-14, Section 6.2).

Regarding Claim 6, Collberg further disclose the method set forth in Claim 2 further comprising the step of:

providing the watermark to an authenticating entity that authenticates the watermarked code (Figure 26; Pages 23-26, Deobfuscation).

Regarding Claim 7, Collberg further disclose the method set forth in Claim 2 further comprising the step of:

providing the key to the authenticating entity (Figures 25 and 26; Pages 23-26, Deobfuscation. Providing the key is an inherent part of authentication.).

Regarding Claim 8, Collberg further disclose the method set forth in Claim 1 wherein:

the sequence of executable instruction is modified such that when the sequence of executable instruction is executed, execution state is produced which has a property that depends on the key (Figures 25 and 26; Section 9, Deobfuscation).

Regarding Claim 15, Collberg further disclose the method set forth in Claim 8 further comprising the step of:

providing a description of the produced execution state to an authenticating entity that authenticates the watermarked code (Figures 25 and 26; Pages 23-26, Deobfuscation).

With regards to Claims 16 and 17, arguments analogous to those presented for Claim 7 are applicable to Claims 16 and 17.

With regards to Claim 18, arguments analogous to those presented for Claims 1, 6, 15 and 16 are applicable to Claim 18.

With regards to Claim 21, arguments analogous to those presented for Claims 1, 6, 8, 15 and 16 are applicable to Claim 21.

***Allowable Subject Matter***

5. Claims 5, 9-14, 19, 20 and 22-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Contact Information***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mehrdad Dastouri whose telephone number is (703) 305-2438. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mehrdad Dastouri  
Primary Examiner  
Art Unit 2623  
March 7, 2004

MEHRDAD DASTOURI  
PRIMARY EXAMINER

*Mehrdad Dastouri*